

# **STUDENT INFORMATION SYSTEMS**

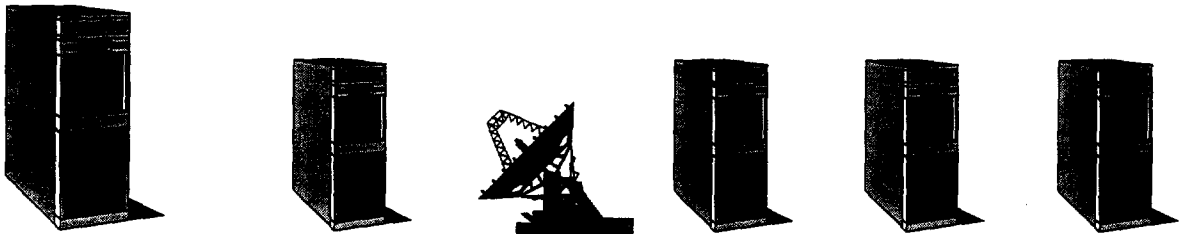
## **Adult Education Student Information Sub-System**

### **System Description**

The Adult Education Student Information System (AESIS) maintains historical and current information (student profiles) on all adult education students who have attended or are attending the Detroit Public Schools Adult Education Program. This system is the basic operations and demographic information system for adult education students.

### **System Requirements**

- Place the adult education students on the CIMS software. This will allow easy transition of student information from the SIS to the AESIS.
- Create a process to collect adult education attendance information using touch tone telephones for non-school based adult education centers. These centers would be provided rosters with a line number to identify students. Attendance would be entered with a line number and an absence code. New students, already on the computer from a previous semester, could be enrolled using their social security numbers.



# **STUDENT INFORMATION SYSTEMS**

## **Student Academic Analysis Sub-System**

### **System Description**

The Student Academic Analysis Sub-System tracks standardized test scores, course marks, code violations, attendance and other indicators of student success and provides the capability to analyze student, school and district performance using statistical tools. All preschool and adult education students have a record in the system and the system can provide both vertical and longitudinal analysis.

### **System Requirements**

- Implement a server based statistical analysis software system to provide for the downloading and analysis of student status data.
- Provide sufficient on-line storage to keep Headstart through Adult Education data on-line.
- Develop systems to handle data collection, reporting and analysis of student data including test scores, attendance, and grade point average.
- Include pre-school, Headstart and Adult Education in analysis database.
- Require the collection of accurate Social Security number information as part of the student information. This will allow for the accurate collection and transfer of student data between cooperating organizations such as the State Department of Education, other school districts, colleges and various testing organizations.
- Create the District, Area and school level MEAP and MAT reports directly from the AS400 computer. This data would then be immediately available for school use and available for downloading to a micro computer for desktop publishing of the District Objectives.
- Add MAT data to the disaggregated data available to schools and Area Offices.

# **STUDENT INFORMATION SYSTEMS**

## **Bus Transportation Sub-System**

### **System Description**

The Current bus transportation system is an operations based system to provide support for the transportation of students. The system must accommodate the needs of DPS owned buses, vendor buses, taxi cabs, bus passes and bus tokens. A major part of the system relies on a transportation scheduling system from Education Logistics, Inc. called Edulog. Edulog has the capability to schedule students onto buses based on a computerized map of the city, transportation policies (parameters) entered into the system and the demographic characteristics of students.

### **System Requirements**

- Provide the ability for each school to view its bus routes and stops on the AS400 computer, including the ability see a list of students assigned to a stop.
- Provide schools with the ability to enter a student on a stop in a real time mode. The student, once entered, would be able to immediately begin riding the bus from the assigned stop. The computer system would continue to have the ability to change and optimal stops including the ability to re-assign a student to a different stop or bus.
- Provide bus drivers at the East and West Terminals with the ability to receive a revised student roster for their buses on a daily basis, directly from the computer system.
- Provide vendor bus drivers with the ability to receive a revised student roster for their buses on a daily basis, directly from the computer system using FAX capabilities.
- Create a student transportation problem record connected directly to the student record. Any transportation problem recorded by a school, the transportation help desk, the student information help desk would be placed in this record as a narrative statement. The record would include a code to indicate that a problem was open (not resolved) or closed. All open problems would be tracked by the Office of Student Transportation to resolution.
- Establish the AS400 computer student transportation data as the official source of transportation information for students. The Edulog system would provide input to and receive output from the AS400 data base for scheduling purposes.
- Simplify the process used for schedulers to route students on the Edulog system. This is probably more a training issue than systems development concern.



# **STUDENT INFORMATION SYSTEMS**

## **Field Trip Tracking Sub-System**

### **System Description**

Currently, the entire field trip process is handled manually. With the current process schools can order field trips for which they do not have funds to pay. Also schools need an automated process to confirm that a field trip has been scheduled and to know who will be providing the service.

### **System Requirements**

- Provide the ability for schools to enter field trip requests via the AS400 computer. Schools should also be able to view outstanding and previous requests.
- Allow the Office of Transportation to view field trips on-line and to see if necessary funds are available.
- Provide for trip status viewing by schools and changes by the Office of Transportation and schools regarding approaching field trips. Schools should be able to cancel trips not confirmed and the Office of Transportation should be able to confirm trips.

# **STUDENT INFORMATION SYSTEMS**

## **Special Education Sub-System**

### **System Description**

The Special Education Sub-System provides State required reporting for special education and maintains a database of special needs categories by student.

### **System Requirements**

- Develop a process to determine where space is available that meets the needs of a special education student, register that student into that classroom.
- Create and maintain IEP's on the computer system.
- Move the psychological reports of special education students to an imaged database and provide access to those imaged for all authorized individuals with LAN connections.



# **STUDENT INFORMATION SYSTEMS**

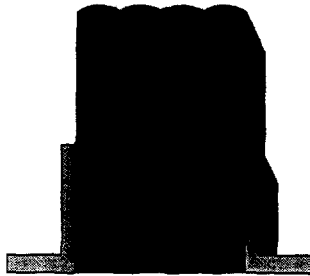
## **Grade Reporting Sub-System**

### **System Description**

The Grade Reporting Sub-System creates grade reports for all students, a history of grades for the current year, and a transcript file.

### **System Requirements**

- Evolve the transcript file into the official transcripts for the Detroit Public Schools.
- Convert grade reporting from an optical scanner process to direct entry on micro computers at every school and eventually from every classroom. This process will allow for immediate validation of the grades entered and the ability to print a grade listing for each teacher.
- Migrate grade report printing to a local school process for elementary and middle school.



# **STUDENT INFORMATION SYSTEMS**

## **Student Attendance Sub-System**

### **System Description**

The Student Attendance Sub-System keeps track of student attendance for grade reports, transcripts and State aid purposes.

### **System Requirements**

- Convert the entry of student attendance from an optical scanner process to direct entry on micro computers at every school and eventually from every classroom. The objective is to have attendance for all students entered directly into the computer daily for all students.
- Provide each school with the ability to have a computer generated telephone call to a parent or guardian if a student is absent from school.



## **STUDENT INFORMATION SYSTEMS**

### **Code Of Conduct Sub-System**

#### **System Description**

The Code Of Conduct Sub-System keeps track of any violations of the Code of Conduct by K-12 students. It also produces school, Area and district wide summaries of code violations.

#### **System Requirements**

- Convert the code violation process to a paperless system with on-line entry from the school, electronic movement of information to the Area Office and to the Code of Conduct Office.
- Change the tracking of student expulsions so that movement of the student's records to a non-existent unit is no longer the method used to know that a student has been expelled.
- Enhance the tracking of suspended and expelled student so that time out of school is reported to schools, Area Offices and the Code of Conduct Office.



# **STUDENT INFORMATION SYSTEMS**

## **Student Scheduling Sub-System**

### **System Description**

The Student Scheduling Sub-System creates student schedules by on a master schedule developed by the school and course requests from students and counselors.

### **System Requirements**

- Provide a faster AS400 computer so that student schedules can be processed on a more timely basis at the beginning of the school year.

# **STUDENT INFORMATION SYSTEMS**

## **Bilingual Information Sub-System**

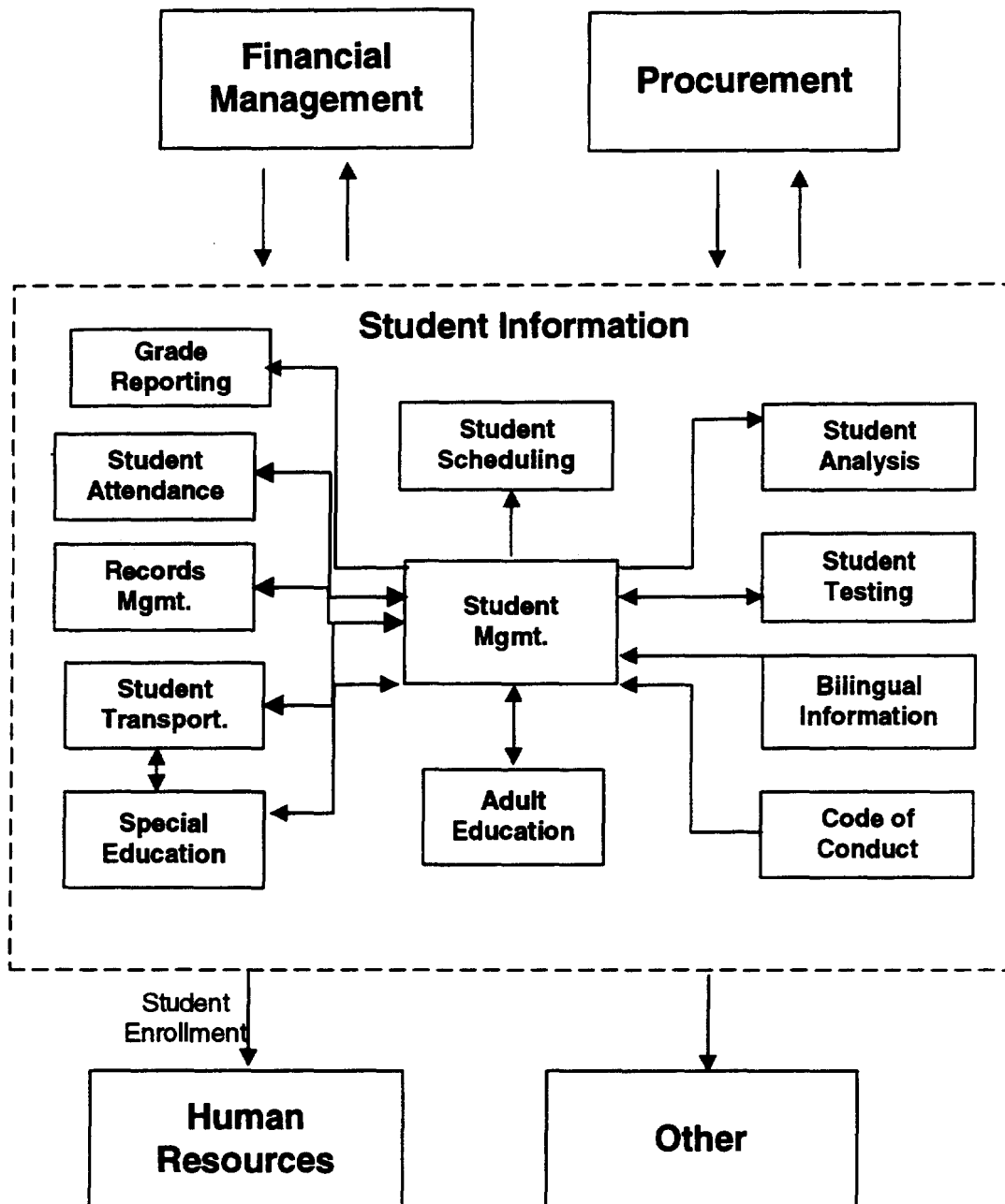
### **System Description**

The Bilingual Information Sub-System keeps track of English proficiency and languages spoken at home for students with a non-English background.

### **System Requirements**

- Provide the capability to provide enhanced academic achievement reporting for ESL students.

# Detroit Public Schools Administrative Systems



# **HUMAN RESOURCE SYSTEMS**

## **Payroll System**

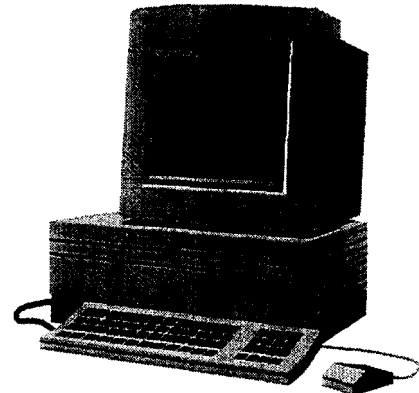
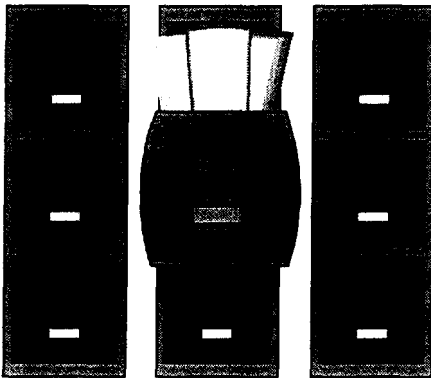
### **System Description**

The Payroll system gathers employee time keeping information, processes it against position files, archives the data, provides management reports and generates paychecks.

### **System Requirements**

- Provide on-line payroll history record retrieval for seven years of payroll data.
- Provide the capability to process a single payroll check which updates the regular payroll files and prints a check in the payroll office.
- Replace the current payroll system, which has COBOL code which has been converted across three computer platforms and has reached the point of non-maintainability, with a software package which incorporates the basic payroll/personnel needs of the district and has the flexibility to be modified to meet the unique needs of DPS without destroying the integrity of the software package. Once selected, the payroll/personnel software package should not be implemented without the development of general specification, a detail design, computer program development, system testing, system documentation, user manuals, technical manuals, and a conversion plan with a cut over strategy.
- Provide the capability for on-line payroll adjustments.
- Provide the capability for on-line and multiple wage assignments including the ability to schedule assignment for a future date.
- Implement the capability to enter time and attendance directly into the computer from computer terminals located in offices and schools throughout the district. Attendance entry rosters would continue to be printed for each location. However, the signed rosters would be maintained at the work site.
- Create a reporting system for staff attendance which provides a detail quarterly report of staff attendance to work locations, a bi-weekly exception report of staff with poor attendance for the unit administrator, a computer based tracking system for reporting action taken to improve the attendance of poorly attending staff, and the ability to directly generate the reports required for the District Objectives relative to staff attendance.
- Develop a disaster recovery process for payroll to account for problems as serious as the complete loss of the computer system and all files. The recovery process should assume that the Schools Center Building is not available for computer processing and that all current payroll files have been lost.

- Develop a mileage payment system which takes into account the need to minimize the data entry required to meet this Continue process. Consider moving this process to accounts payable since it is an expense reimbursement and not a payroll.
- Develop a worker's compensation payment system which takes into account the need to minimize the data entry required to meet this Continue process.



BOB JONES		2048
PAY TO THE ORDER OF		\$
FIRST NATIONAL BANK		DOLLARS
100 2100 220 770 5540700 2131		

# **HUMAN RESOURCE SYSTEMS**

## **Personnel System**

### **System Description**

The personnel system is actually an integral part of a combined payroll/personnel system which uses a common database to perform the payroll functions along with the related personnel functions of recruiting, employment, staffing, certification record keeping, professional development record keeping, discipline record keeping, etc.

### **System Requirements**

- Provide capability for on-line update/inquiry to employee vacation, sick time, and personal business banks
- Provide capability for on-line update/inquiry into employee absences
- Provide capability for on-line update/inquiry into employee start-up, leave of absence, and layoff information
- Create a process which correctly calculates employee seniority and has the capability to provide layoff lists and letters.
- Implement an imaging system which has the capability to store source documents by employee number (file number). This system must have the capability to allow image retrieval from any LAN based IBM compatible PC authorized to access such data. In addition, the system must include the ability to move directly to imaged data for an employee based on having retrieved the person's text based personnel record.
- Provide a certification database within the personnel system with a direct cross reference to the imaged documents which support the certification. Documents and data will include transcripts, teaching and administrative certificates.
- Provide a professional development database within the personnel system with a direct cross reference to the imaged documents which support the professional development. The database should support the needs of teacher mentoring, allow entry of staff.
- Provide the ability to make changes and/or additions to fringe benefits granted to employees through bargaining unit negotiations. The system must be designed to track and report retirement allowance in accordance with the qualifications established by the Michigan School Employee retirement System. longevity bonus payments, medical benefits, and seniority credit.

# **HUMAN RESOURCE SYSTEMS**

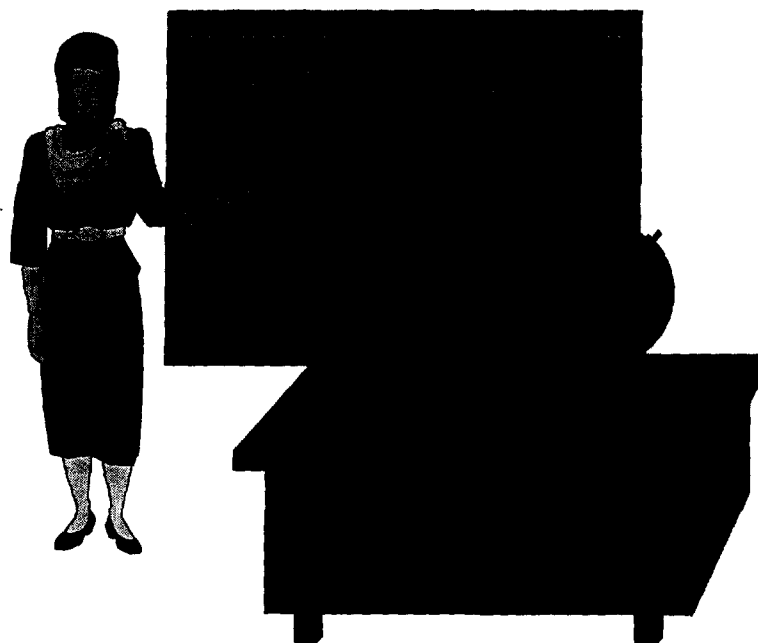
## **Substitute Processing System**

### **System Description**

This system will have the capability of recording the need for a Substitute, identifying a candidate, confirming the candidate, informing the school of the selection and providing attendance for payment of the substitute.

### **System Requirements**

- Implement a computer based substitute notification and selection system. The system will allow teachers to notify the school of absences, administrators to request subs, subs to announce their available and subs to be assigned through the use of touch tone telephones and a client server based computer system.
- The computer based sub system will also verify sub teacher attendance and insure that subs are not requested or assigned for teachers who are not absent.
- The computer based sub system will also authorize payments to substitutes by providing time and attendance transactions to payroll.



# **HUMAN RESOURCE SYSTEMS**

## **Labor Affairs System**

### **System Description**

The labor affairs system monitors all labor related functions in terms of union and contract negotiations to ensure fair employee/employer relations, while meeting state and district mandated labor policies. This is currently a manual system.

### **System Requirements**

- Provide a PC based executive information system for labor affairs which can provide "what if" analyses for various bargaining and grievance related issues.
- Provide a worker's compensation adjudication database which records cases and tracks their development through final payment.
- Provide an imaging database of labor affairs related documents such as unit contracts, grievance settlements, arbitration rulings, labor law, etc. The database would be keyword indexed and include the capability to access imaged based Board Reports and Board Policies.
- Provide a grievance tracking database with on-line update capabilities.



# **HUMAN RESOURCE SYSTEMS**

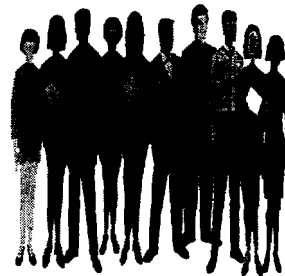
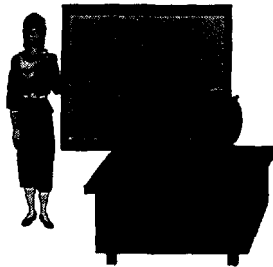
## **Teacher Service Reconciliation and Control System**

### **System Description**

The Teacher Service Reconciliation and Control System (TRACS), is an automated process to match staffing levels in the schools to enrollment. The system keeps track of enrollment by schools and current staffing levels in the schools for Board funded positions. It uses the staffing formulae for schools to determine whether a school is correctly staffed. Differences (over or under) are reported to Internal Audit, Personnel and the Budget Office. This system is under development.

### **System Requirements**

- Generate counts of Board Funded staff by school and job category
- Generate student enrollment at four points in time: (1) projected enrollment (April); student enrollment (September); first count (October); second count (February).
- System must be able to factor out students who have not returned when determining student enrollment (use absences).
- Maintain file of authorized exceptions to staffing levels.
- Using enrollment data, staffing data, and authorized exception data, the system must generate data on over/under staffing by school and job classification.



# **HUMAN RESOURCE SYSTEMS**

## **Position Control Sub-System**

### **System Description**

The Position Control Sub-System is an inventory of jobs and who is currently holding that job. In addition, the system keeps track of the funding sources for a particular job.

### **System Requirements**

- Establish the position control system as the only authorization for payment of an employee. No employee should be paid unless that person is staffed into an authorized position.
- Establish a direct tie to the financial system for position control so that no position can be created (opened) unless adequate funds are available, identified and encumbered to support it. The encumbering process should allocate funds based on the dollars needed to fund the position for the remainder of the fiscal year in which the position was opened. The encumbering process should provide funds for payment and for employee benefits.
- Once a position is staffed, the system should adjust the encumbrance to reflect the actual salary of the person staffed into the position.
- Each payroll period that a position remains unstaffed should result in a reduction of the encumbrance, making those funds available for use.
- Each payroll period that a position is staffed should result in a reduction for the encumbrance equal to the payroll distribution for that employee in that position, including benefits.

# **HUMAN RESOURCE SYSTEMS**

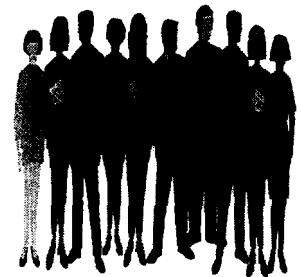
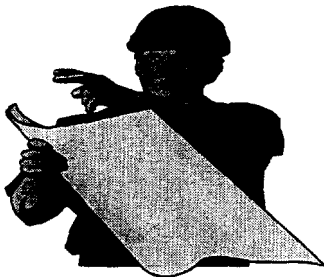
## **Employee Recruitment Sub-System**

### **System Description**

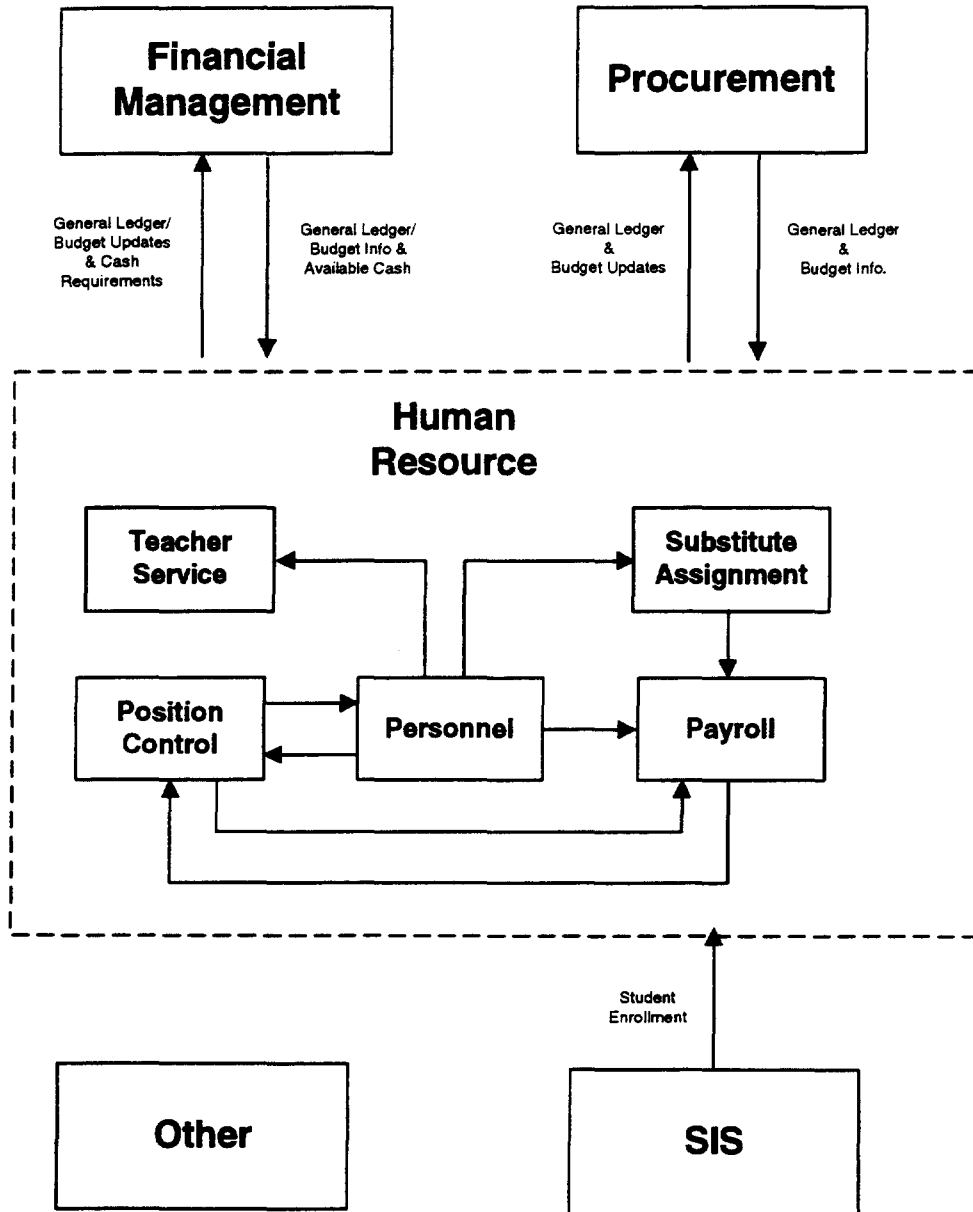
The Employee Recruitment Sub-System keeps track of applicants for positions. The system would provide reports on the success of the recruitment process and various reports to meet State and Federal employment guidelines. Once an individual is hired, information from the system would be transferred to the Payroll/Personnel file without re-keying.

### **System Requirements**

- Develop a client server based employee recruitment and applicant tracking system.



# Detroit Public Schools Administrative Systems



# **PROCUREMENT SYSTEMS**

## **Accounts Payable System**

### **System Description**

The Accounts Payable System uses purchase orders, receiving information, and invoices to authorize payments to vendors. The system generates bank tapes, check transmittal and warrants after check runs and integrates appropriate payable transactions into the general accounting system.

### **System Requirements**

- Provide enhanced audit trail and historical record data utilizing Computer Output on Laser Disk (COLD) technology.
- Eliminate the need to produce any manual checks with the development of real time check production (as needed) with immediate update of financial files. This will provide the timely check production needed on occasion with the assurance that all checks are properly accounted for by AMS financial system.
- Continue efforts to bring check signing into the 21st Century by working with the City of Detroit to eliminate the need to hand carry checks produced by Detroit Public Schools computers to City Hall so that they can be signed using technology which was obsolete ten year ago. Most organizations with high volume check production use the computer to sign the check as it is printed. Effective controls have been developed by auditors to provide internal control over this process.

# **PROCUREMENT SYSTEMS**

## **Inventory Control System**

### **System Description**

The Inventory Control System is a real time on-line application that handles cataloging of approved annual orders and requisition processing, allowing unrestricted adjustments, warehouse requisitioning, validation and fund checking, and redistribution of accounting system expenses. Physical inventory capability, shipping order generation, stock status and up to date shipping information inquiry and warehouse receipt entry are available functions.

### **System Requirements**

- Implement on-line catalog search with optional cross reference to an imaged file with pictures of the inventory item. The search will be keyword based with the ability to selection from among a series of items displayed based on the keywords entered.
- Allow for an unlimited number of warehouses, including multiple warehouses at a school location.
- Allow for inventoried items to include non-stock items. A request for such items would generate a purchase order.
- Allow for multiple storage locations for inventoried items and the ability to do bar-code receiving and bin storage.
- The system must generate picking tickets and shipping manifests for requisitions for stocked items.
- The system should generate a potential list of warehouse orders based on inventory level and include the capability to generate purchase orders.

# **PROCUREMENT SYSTEMS**

## **Purchasing Sub-System**

### **System Description**

The order entry sub-system handles requisition tracking, bid and purchase order generation, vendor response processing, purchase order generation, and adjustment/cancellation phases. Through systematic fund checking and encumbrances, account balances are maintained.

### **System Requirements**

- Allow for entry of requisitions for stocked and non-stocked items using the same basic entry screens. Funds checking should be an integral part of either the requisition entry process.
- Provide on-line archiving and retrieval capability. Establish an on-line process to archive and retrieve historical records through an integrated look-up directory mechanism.
- Determine and establish process that will enhance the purchase order closing procedure now used to allow for a more timely, efficient year-end/periodic closing.
- Implement on-line catalog search with optional cross reference to an imaged file with pictures of the inventory and non- inventory items. The search will be keyword based with the ability to selection from among a series of items displayed based on the keywords entered. The SKU of selected items can be pasted directly into requisitions.
- Implement the recommendation identified in the procurement re-engineering study.
- Implement and enhance the contract management capabilities of the Purchasing Sub-system.
- Implement and enhance the bid management capabilities of the Purchasing Sub-system.
- Provide commitment accounting for requisitions so that schools and offices know what funds have been committed to requisition but not encumbered. This will give them a more accurate picture of available funds.

# **PROCUREMENT SYSTEMS**

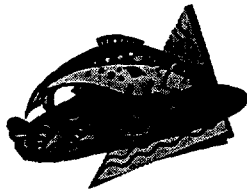
## **Food Service Sub-System**

### **System Description**

The Food Service Sub-System currently has two primary functions: The first is Meal Benefits, which includes the determination and monitoring of those students members eligible for free and reduced meals as mandated by state and federal guidelines. The second is Meal Accounting, which includes inventory, cost accounting, and menu planning and tracking.

### **System Requirements**

- Evaluate the current Food Service System to determine if point of sale (POS) collection of student food purchases and a client server based meal accounting system are feasible and cost effective.





## **PROCUREMENT SYSTEMS**

### **Work Order Sub-System**

#### **System Description**

The Work Order Sub-System tracks the progress of repair and renovation jobs in process. The system has a bill-of-material process which determines material needs as well as labor needs for a pre-defined job type.

#### **System Requirements**

- Implement the client server based facilities operation system and provide access to this client server based system to schools.